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Book Review: New Heavens and a New Earth: The Jewish Reception of Copernican Thought

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Jeremy Brown, *New Heavens and a New Earth: The Jewish Reception of Copernican Thought*, (Oxford: Oxford University Press, 2013). ISBN 978-0-19-975479-3

The book not only compares the biblical account of the motions of the heavens with the Copernicus system, but gives the rabbinic reception of the Copernican findings. Brown's book makes positive contribution to fields of intellectual history, Jewish studies, history of science, philosophy of science, social-cultural-economic history, and the relationship between Torah and science. It will be a benchmark study of the Jewish reception of the Copernican revolution across four centuries of Jewish writings. Brown documents the ways in which Rabbis ignored, rejected, or accepted the Copernican findings, and the theological, cultural, political, and societal basis for their choices to accept reject or straddle the fence somewhere between full out embracement of the Copernican model or its rejection. Brown highlights the impact of various Rabbinic thinkers' ideas on Copernican astronomy including: Rabbis David Gans, Abraham Yagel, Elijah Del Medigo, Isaac Cardoso, Tuvia cohen, Nieto, Israel of Zamosc, Raphael Levy, Judah Hurwitz, Yonatan Eybeschutz, Jacob Emden, Hatam Sofer, David Frisenhausen, Isaac Reggio, Samson Raphael Hirsch, Hayyim Zelig Slonimski, Reuven Landau, Reb Zadok HaCohen, the Lubavitcher Rebbe, Rabbi Avraham Kook, and recent modern neo-geocentrics who use Einstein's theory of relativity to argue that the earth does not actually revolve around the sun. Brown also provides insightful comparison of concurrent Jewish and Christian writings on Copernicus demonstrating that Judaism does not live in a vacuum, but cross fertilization existed in the Jewish reception of Copernicus largely dependent on local factors of symbiosis played out as response and counter-response reaction.

Brown's book, like those of David Ruderman in the history of Jewish science, fleshes out how the rabbinic establishment reacted to new discoveries in the sciences. This book also joins a growing literature in the history and philosophy of science that raises the question of the compatibility of science and religion and the social and cultural dimension of epistemological truth. Thomas Kuhn in his book *The Structure of Scientific Revolutions (*1996), Steven Shapin in *A Social History of Truth (*1995), David Livingstone in *Science in its Place (*2003*)*, and Bernard Lightman's edited volume *Science in the Marketplace (*2007) have also demonstrated that what is true in science today, is not necessarily true tomorrow. Every idea even in hard-core sciences, and all the more so in the cultural phenomena of art-fiction-music etc. represents as Hegel noted, . the spirit of its time, showing that the relationship between science and religion is often conditioned by "prevailing cultural arrangements.

Kuhn showed that science moves forward in paradigm shifts, and Brown traces the rabbinic reaction to the paradigm shift that constitutes the Copernican revolution.

The book further raises caution with over simplifying contemporary Jewish sociological trends. For example, while we might expect a more unified outcome among the ultra-Orthodox Haredi community in Israel in which a secular University education is often shunned, in fact the evidence suggests that within this small group, there are those who view the Copernican model as acceptable

while others still see it as heresy. How does the Jewish reception of Copernicus also shed light on how the reforming maskilim of the modern Enlightenment endorsed Copernicanism in support of their agenda to increase openness to the secular world including science, as further illuminated by the work of Shmuel Feiner (The Jewish enlightenment, Philadelphia : University of Pennyslvania Press, 2004)?

Some implications of this book are that given the test case of the Rabbinic reception of Copernicanism, how might future historians of science, religion, and intellectual history map out the reception of Darwinian evolution in Rabbinic circles? What does rabbinic resistance to Nosson Slifkon's trying to reconcile Torah with theories of evolution, especially in Darwinian biology at the molecular and genetic level based on studies such as the Torah perspective of the *Selfish Gene*, a book by Richard Dawkins, suggest about the case of the reception of Copericanism as a model for understanding future resistance to new scientific findings? Can Torah interpretation harmonize the findings of Stephen Jay Gould for instance in *Rocks of Ages,* which presents fossil evidence of paleobiology as a challenge to the dating of time from the Bible.

If Rabbinic interpretation will continue to interact with science in the future how will Rabbinic decisors grapple with new scientific discoveries that appear to threaten some of Judaism's most cherished dogmas? For example rabbis will be confronted with new ideas in string theory and the attempt to arrive at a unified field theory that may challenge traditional notions of providence based on the paradox of Rabbi Akiva, "All things are foreseen but freedom of will is given."

Likewise does the Copernican test case give insights on how rabbis might hermeneutically grapple with genetic ethical ramifications of stem cell research and cloning while understanding the great benefits these discoveries will have for fertility treatments and genetic engineering when employed responsibly to eradicate disease and illnesses?

Based on the prior evidence of the Rabbinic reception of ideas in science such as the Copernican revolution can we perhaps make some reasonable predications about the future interaction of rabbinic culture and science? If rabbinic reaction fits the pattern of the rabbinic reception of Copernicus then can we trace a pattern whereby in rabbinic reception of new scientific ideas there will be some Jews who will resist new scientific findings but after time, when more evidence is marshaled and the political advantages are apparent, Rabbis will muster their hermeneutic ingenuity to reconcile science and torah ? Does the Copernican test case suggest a pattern when the tide will turn in favor of religious accommodation for new scientific findings?

Brown's findings (chapter 14, conclusions) suggests that whether new scientific findings challenge religion in the area of evolutionary psychology, Darwinian evolution, genetics and astro-physics to name a few disciplines, the case if the rabbinic reception of Copernicus perhaps sheds much light on what we can expect when Rabbinic halakhah meets new scientific discoveries. Brown's findings indicate that the Copernican case illustrates that despite many detours and backtracks of resistance the Rabbinic community did eventually come to accept more generally the new findings of the new astronomy of Copernicus, The Browns books sheds light on the dialectic between what Straussians call Athens

(science) and Jerusalem (religious faith). Brown rejects the overgeneralization that all attempts to reconcile faith and science are "consigned to failure and ridicule" (Christopher Hitchens), for only time will tell how religion and science can walk together if not hand in hand, then side by side (p.416).

Strauss notes that the modern Enlightenment rationalist project of science wanted to laugh out of existence medieval faith and superstition, but what the Copernican case may reveal is that given the big picture, or when we factor in the long view across centuries and millennium, the Maimonidean project of reconciling Torah and science is required in each generation. Just as there is no falsehood before the throne of G-d as revealed to Rabbi Akiva in the account of the four who entered PaRDeS, eventually religion must perhaps acknowledge that Hashem is near to all who call upon him in truth. Whose truth(?) is a question that for the time before ultimate redemption remains debatable, but when all is said and done, Maimonides' meta-scientific project to reconcile the science of his day with torah, even if Maimonides adhered to a Ptolemaic astronomy, is a necessary project not just for the now, but all time. Brown's book concludes by noting the tentative conclusions that one can withdraw from the case of the Jewish reception of Copernicus. However ultimately insight is shed on how Judaism in particular, and monotheistic religions in general, accommodate new scientific findings of the natural world while remaining devoted to upholding time tested traditional based cherished dogma. Brown in his work raises fundamental questions with regards to the relationship between tora h and science.

The appendix includes David Frisenhausen's *Sabbath Zemirah* in praise of the Creator of the Solar System, a religious hymn to G-d's creation of the heavenly bodies, perhaps more moving than Gustav Holtz' symphony "The Planets."

This excellent book which makes a most positive contribution is recommended without reservation for all libraries. It is a book for the intellectually honest, and those unafraid of testing their faith when challenged by new scientific discoveries.

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